TABLE S1. Correlation Matrix for Continuous Indicator Measures

Measure	AI	MI	NPI	K	AGG	N	E	O	A	C	NU	PRE	PERS	PU	DEP	ANX
Attentional Impulsivity (AI)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Motor Impulsivity (MI)	0.65*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Non-Planning Impulsivity (NPI)	0.71*	0.64*	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Delay Discounting (K)	0.57*	0.43*	0.52*	--	--	--	--	--	--	--	--	--	--	--	--	--
Aggression (AGGR)	0.04	0.06	0.13*	0.04	--	--	--	--	--	--	--	--	--	--	--	--
Neuroticism (N)	0.55*	0.39*	0.50*	0.60*	0.06	--	--	--	--	--	--	--	--	--	--	--
Extraversion (E)	0.08	0.21*	0.06	-0.12*	-0.03	-0.08	--	--	--	--	--	--	--	--	--	--
Openness (O)	-0.08	-0.05	-0.27*	-0.14*	-0.11	-0.07	0.09	--	--	--	--	--	--	--	--	--
Agreeableness (A)	-0.23*	-0.20*	-0.18*	-0.52*	-0.08	-0.17*	0.17*	0.12*	--	--	--	--	--	--	--	--
Conscientiousness (C)	-0.52*	-0.47*	-0.62*	-0.24*	-0.08	-0.30*	-0.03	0.06	0.12*	--	--	--	--	--	--	--
Negative Urgency (NU)	0.74*	0.61*	0.70*	0.63*	0.09	0.64*	0.12*	-0.12*	-0.30*	-0.50*	--	--	--	--	--	--
Premeditation (PRE)	0.58*	0.54*	0.63*	0.34*	0.05	0.36*	0.16*	0.08	-0.21*	-0.62*	0.57*	--	--	--	--	--
Perseverance (PERS)	0.61*	0.43*	0.66*	0.39*	0.10	0.46*	-0.08	-0.08	-0.18*	-0.71*	0.58*	0.66*	--	--	--	--
Positive Urgency (PU)	0.69*	0.58*	0.62*	0.59*	0.10	0.52*	0.09	-0.18*	-0.34*	-0.47*	0.83*	0.54*	0.55*	--	--	--
MADRS Depression (DEP)	0.51*	0.38*	0.51*	0.42*	0.06	0.47*	0.03	-0.09	-0.13*	-0.34*	0.55*	0.33*	0.39*	0.49*	--	--
Trait Anxiety (ANX)	0.67*	0.47*	0.67*	0.57*	0.06	0.71*	-0.08	-0.07	-0.21*	-0.46*	0.70*	0.46*	0.59*	0.59*	0.73*	--

Note: Pearson correlation coefficients. * $p < 0.05$

TABLE S2. Four factor solution from exploratory factor analysis

Proposed Grouping	Indicator	Factor 1	Factor 2	Factor 3	Factor 4
Executive function	ADHD[1]	0.181	**0.432**	0.19	0.05
Executive function	Attentional Impulsivity[2]	0.321	**0.518**	0.004	0.199
Executive function	Motor Impulsivity[2]	0.128	**0.462**	-0.019	0.323
Executive function	Non-planning Impulsivity[2]	0.067	**0.749**	0.102	-0.01
Executive function	Delay Discounting (K)	0.114	-0.027	0.012	-0.211
Executive function	Conscientiousness[3]	0.149	**-0.898**	-0.033	0.153
Executive function	Negative Urgency[4]	**0.445**	0.344	0.134	0.288
Executive function	Premeditation[4]	-0.004	**0.843**	-0.225	0.214
Executive function	Perseverance[4]	0.045	**0.851**	0.004	-0.217
Executive function	Positive Urgency[4]	**0.462**	**0.338**	0.046	0.23
Negative Emotionality	Depression[5]	0.206	-0.011	**0.608**	-0.002
Negative Emotionality	Neuroticism[3]	**0.599**	-0.008	0.25	0.038
Negative Emotionality	Extraversion[3]	**-0.363**	0.016	0.021	**0.618**
Negative Emotionality	Openness[3]	0.025	-0.154	-0.115	0.229
Negative Emotionality	Agreeableness[3]	**-0.554**	-0.092	0.155	0.119
Negative Emotionality	Trait Anxiety[6]	**0.394**	0.166	**0.469**	-0.02
Negative Emotionality	Aggression[7]	**0.9**	-0.008	-0.005	-0.075
Negative Emotionality	OCDS Item 11[8]	0.09	0.007	**0.87**	0.05
Incentive Salience	OCDS Item 1[8]	-0.077	0.161	**0.816**	-0.049
Incentive Salience	OCDS Item 13[8]	0.074	-0.082	**0.88**	0.007
Incentive Salience	ADS Item 18[9]	-0.039	0.093	**0.883**	0.048

Note: Boldface indicates factor loadings ≥ 0.350. Fit indices are as follows: RMSEA = 0.035, CFI = 0.984, TLI = 0.975

FIGURE S1. Three-dimensional plot of the factor scores for Negative Emotionality, Executive Function, and Incentive Salience, indicating the distribution of scores in participants with and without alcohol use disorder (AUD).
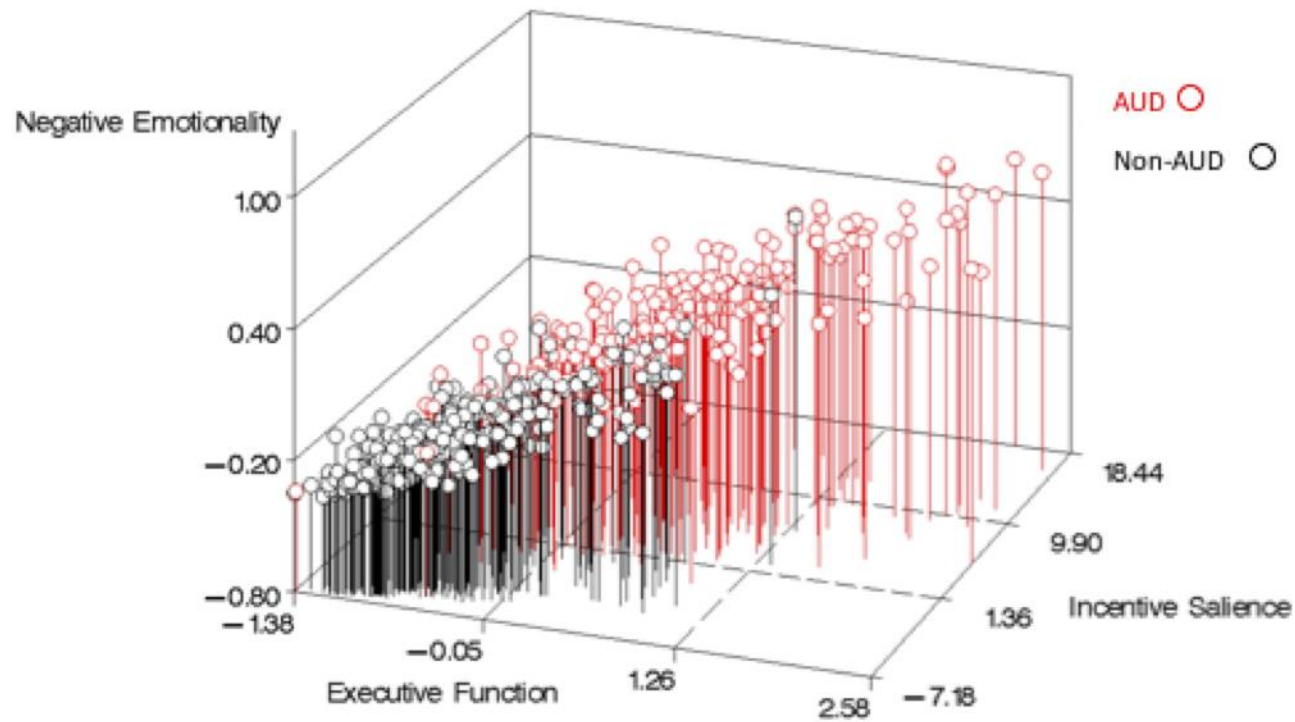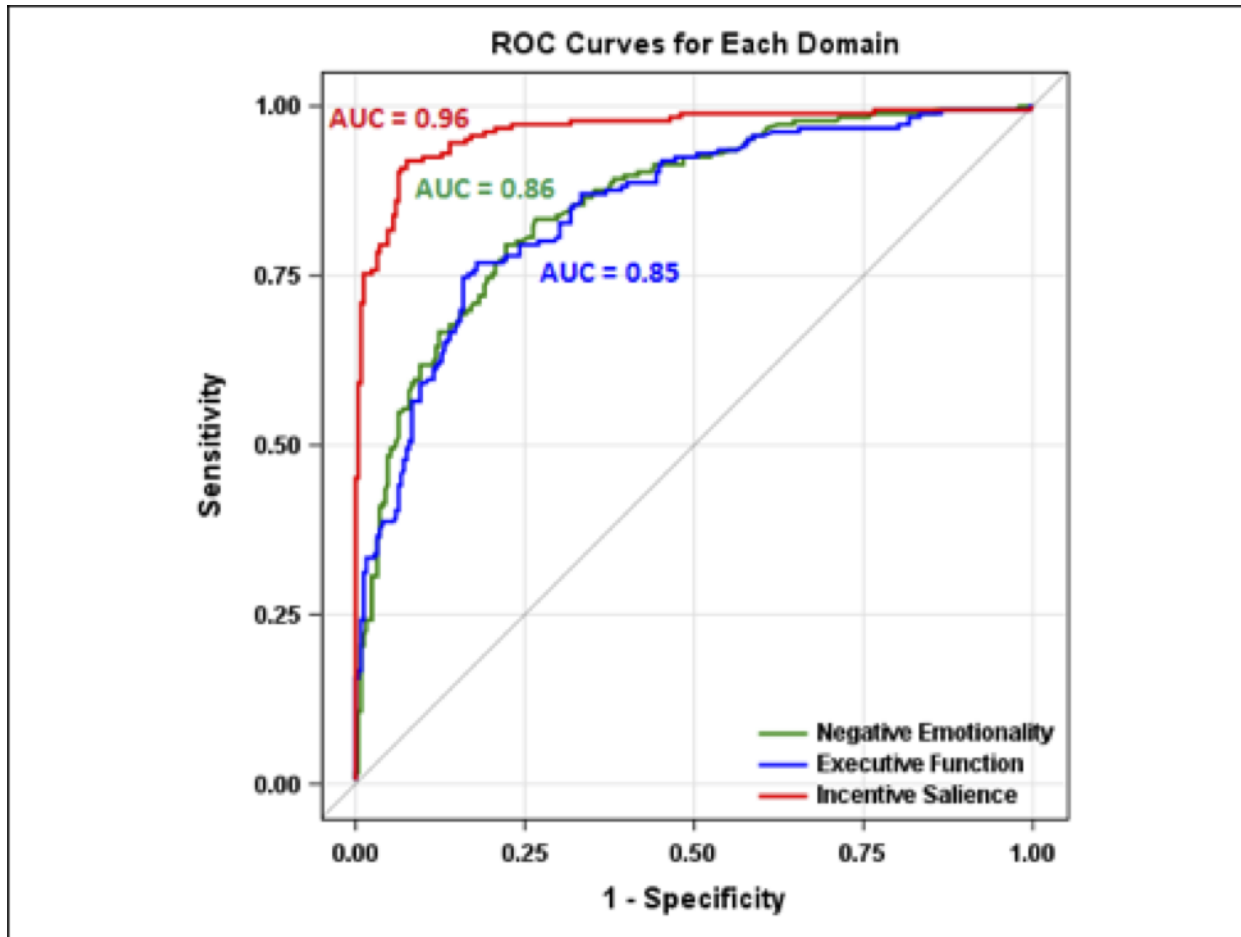
FIGURE S2. ROC curves for each of the three latent domains predicting a diagnosis of AUD.

ROC = receiver operating characteristic; AUC = area under the curve.